

## CLAIMS:

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1. An electrical apparatus having an actuator including at least two permanent magnets (1, 1a) and at least one electrical coil (2) which is movably supported by means of a swing arm (3), which coil is arranged to be traversed by magnetic fields of the permanent magnets (1, 1a), the actuator having a cage (4), which encloses the coil (2) and the permanent magnets (1, 1a), as a closed magnetic return path.

2. An electrical apparatus as claimed in claim 1, characterized in that the cage (4) is made of soft-iron or steel and is shaped so as to shield the magnetic stray fields of the magnets (1, 1a).

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3. An electrical apparatus as claimed in claim 1, characterized in that the swing arm (3), which is secured to the coil (2) is supported on a pivot (5), and the pivot (5) is arranged at the inner side of the sector-shaped permanent magnets (1, 1a).

15 4. An electrical apparatus as claimed in claim 1, characterized in that the swing arm (3), which is supported on a pivot (5), is preloaded with respect to a housing (8) by means of a torsion spring (6).

20 5. An electrical apparatus as claimed in claim 1, characterized in that the swing arm (3) is preloaded with respect to a housing (8) by means of at least one blade spring (12).

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25 6. An electrical apparatus as claimed in claim 1, characterized in that at least a second pivot (11) is arranged at the outer side of the sector-shaped permanent magnets (1, 1a), and at least one pivotal joint (9) is present, which pivotal joint couples a first swing arm (3) supported on the first pivot (5) and a second swing arm (10) supported on the second pivot (11) in a pivotable manner and so as to be slidable with respect to one another, the pivots (5, 11) being secured to a housing (8).

15.05.2001

As  
Cost

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2025年12月15日